

Applicant: Harwood, *et al.*
U.S.S.N.: 10/010,778
Filing Date: December 6, 2001
EMC Docket No.: EMC-01-217

In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the Application.

Listing of Claims:

1. (Currently amended) A network adapter capable of being that may be used to interface to a network environment a data storage system input/output (I/O) controller, the data storage system I/O controller residing in a first network data storage system, the network environment being external to the network data storage system, the network adapter comprising:
an interface one or more interfaces capable of being that may be used to couple the network adapter to the data storage system I/O controller via a backplane in the first data storage system, the interface comprising two sets of data and control/management interfaces;
a switching system capable of being that may be coupled to data exchanging devices in the network environment, the switching system being coupled to the data storage system I/O controller when the one or more interfaces couple the network adapter to the data storage system I/O controller; and
port circuitry capable of being that may be used to facilitate establishment of a link between the first network data storage system and a second network data storage system in the network environment, the second network data storage system being remote from the first network data storage system, the link, when established, facilitating establishment of a target device in the second network data storage system as a data mirroring device capable of comprising that may comprise a mirror of data residing in a source device in the first network data storage system.

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2. (Currently amended) The network adapter of claim 1, wherein the switching system comprises a fibre channel switching fabric.
3. (Currently amended) The network adapter of claim 1, wherein the network adapter is an electrical circuit card that is configured to be electrically and mechanically coupled to the backplane.
4. (Currently amended) A circuit card configured to be inserted into and received by a circuit card slot in a first network data storage system, the circuit card comprising:
an interface one or more interfaces capable of being that may be coupled via signal transmission system of the first network data storage system to an input/output (I/O) controller of the first network data storage system when the circuit card is inserted into the circuit card slot,
the interface comprising two sets of data and control/management interfaces;
a switch that may be coupled to data exchanging devices external to the circuit card and the first network data storage system, and that may be coupled to the I/O controller when the circuit card is inserted into the circuit card slot; and
port circuitry that may be used to facilitate establishment of a link between the first network data storage system and a second network data storage system, the link, when established, facilitating data transmission from a source device to a target device, the source device being in the first network data storage system, the target device being in the second network data storage system and being used to mirror data residing in the source device.

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5. (Currently amended) The circuit card of claim 4, wherein the switch comprises a is fibre channel switch.

6. (Original) The circuit card of claim 4, wherein the source device and the target device comprise respective logical data volumes.

7. (Currently amended) The network adapter of claim 1, wherein the source device and the target device comprise respective logical data volumes.

8. (Original) The circuit card of claim 4, wherein the second network data storage system is geographically remote from the first network data storage system.

9. (Currently amended) A method of using a network adapter that may be used to interface to a network environment a data storage system input/output (I/O) controller, the data storage system (I/O) controller residing in a first network data storage system, the network environment being external to the first network data storage system, the network adapter including an interface one or more interfaces, a switching system, and port circuitry, the method comprising:
coupling the interface the one or interfaces to the data storage system (I/O) controller via a backplane in the first network data storage system, the interface comprising two sets of data and control/management interfaces;

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coupling the switching system to data exchanging devices in the network environment, the switching system being coupled to the data storage system (I/O) controller when the interface couples one or more interfaces couple the adapter to the data storage system (I/O) controller; and using the port circuitry to facilitate establishment of a link between the first network data storage system and a second network data storage system in the network environment, the second network data storage system being remote from the first network data storage system, the link, when established, facilitating establishment of a target device in the second network data storage system as a data mirroring device that may comprise a mirror of data residing in a source device in the first network data storage system.

10. (Original) The method of claim 9, wherein the switching system comprises a fibre channel switching fabric.

11. (Currently amended) The method of claim 9, wherein the network adapter is an electrical circuit card that is configured to be electrically and mechanically coupled to the backplane.

12. (Currently amended) A method of using a circuit card configured to be inserted into and received by a circuit card slot in a first network data storage system, the circuit card including an interface one or more interfaces, a switch, and port circuitry, the method comprising:
coupling the interface one or more interfaces via signal transmission system of the first network data storage system to an input/output (I/O) controller of the first network data storage

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system when the circuit card is inserted into the circuit card slot, the interface comprising two sets of data and control/management interfaces;

coupling the switch to data exchanging devices external to the circuit card and the first network data storage system, and the switch also being coupled to the I/O controller when the circuit card is inserted into the circuit card slot; and

using the port circuitry to facilitate establishment of a link between the first network data storage system and a second network data storage system, the link, when established, facilitating data transmission from a source device to a target device, the source device being in the first network data storage system, the target device being in the second network data storage system and being used to mirror data residing in the source device.

13. (Currently amended) The method of claim 12, wherein the switch comprises a fibre channel switch.

14. (Original) The method of claim 12, wherein the source device and the target device comprise respective logical data volumes.

15. (Original) The method of claim 9, wherein the source device and the target device comprise respective logical data volumes.

16. (Original) The method of claim 12, wherein the second network data storage system is geographically remote from the first network data storage system.